April 8, 2014

Objection Reviewing Officer
USDA Forest Service, Northern Region
P.O. Box 7669
Missoula, Montana 59807

*Transmitted this date via email to: appeals-northern-regional-office@fs.fed.us*

To the Reviewing Officer:

This letter is an objection, pursuant to 36 CFR §218, to the Beaver Creek project, on behalf of the Alliance for the Wild Rockies (AWR) and Native Ecosystem Council (NEC). The Responsible Official is Idaho Panhandle National Forests Supervisor Mary Farnsworth. The Beaver Creek project is planned for the Coeur d'Alene River Ranger District of the Idaho Panhandle National Forests (IPNF).

NOTICE IS HEREBY GIVEN that AWR and NEC (hereinafter, "AWR") object pursuant to 36 CFR §218 to the Responsible Official's adoption of a modified Alternative 2 from the May 2013 Beaver Creek Draft Environmental Impact Statement (EIS) as the "Selected Alternative" (January 21, 2014 cover letter). See also "Draft Record of Decision".

The Selected Alternative would involve a total of 1,973 acres of commercial logging, including 628 acres of Shelterwood logging, 185 acres of Seed Tree logging, 300 acres of Commercial Thin logging, 493 acres of "Improvement Cut" logging, and 367 acres of "Aggregate Retention" logging.

The Selected Alternative would also involve construction of 1.5 miles of temporary road and 1.2 miles of new system road, 29 miles of road reconstruction, and 51 miles of "road reconditioning." The Selected Alternative also involves 73 miles of road decommissioning (DEIS Table 1 and Draft Record of Decision at 4) and 13 miles of road storage (Id.).

AWR is objecting to this project on the grounds that implementation of the Selected Alternative would not be fully in accordance with the laws governing management of the national forests, and will result in additional degradation in already degraded watersheds and mountain slopes, further upsetting the ecosystem and human communities. Our objections are detailed below.

AWR is not objecting to some aspects the Selected Alternative. These include the road maintenance, road decommissioning, road storage, and road/stream crossing upgrades. We believe the analysis in the EIS adequately justifies and supports those actions.

OBJECTION STATEMENT: This Objection Process is not predecisional, as required by law and regulations. The Objection Process is alleged to be a process where issues can be resolved prior to a decision being made. Yet the Responsible Official's January 21, 2014 cover letter states:

> **I have decided to implement Alternative 2 with modifications (Modified Alternative 2) as the Selected Alternative.** Based upon my careful review of the Draft EIS and public comments, **I have determined that the Selected Alternative will best** meet the purpose and need, address issues, **respond to public comments**, and comply with laws, regulations, and policy.

(Emphases added.) Clearly the decision has been made and so AWR does not see much chance that our requests for substantial changes made to the Objection Reviewing Officer in this Objection will be taken seriously. Our concerns have already been dismissed without proper consideration by the Responsible Official who has obviously already made her decision, likewise we do not expect a full and fair response to this Objection by the Objection Reviewing Officer since the regulations do not require them. The Forest Service is not in compliance with 36 CFR §218 and NEPA.

REMEDY:

- Prepare a Supplemental EIS using a process that genuinely responds to public comment as well as remedying the other deficiencies of the EIS described below, and then wait to make the decision until the final Objection process is completed.

OBJECTION STATEMENT: The EIS does not disclose cumulative effects of past logging in the project area on soil productivity. AWR comments stated, "Please provide estimates of current detrimental disturbance in all previously established activity areas in the watersheds affected by the proposal." Also:

> The DEIS states that the project area has been heavily logged in the past, when soil impacts were of much less concern and therefore soil integrity was not protected. The DEIS does not estimate the amount of detrimental disturbance (DD) over the vast majority of those acres and thus fails to consider the cumulative effects on soil productivity and watershed effects from past actions in the PA as required by NEPA.

AWR comments also stated, "Please disclose the link between current and cumulative soil disturbance in project area watersheds to the current and cumulative impacts on water quantity and quality."

The IPNF did not adequately address our concerns, the EIS thus violates NFMA and NEPA.

REMEDY:

- Base a Supplemental Draft EIS that discloses the "Percentage of a subwatershed considered to have detrimental soil disturbance" (Revised Forest Plan DEIS Appendix E p. 135) for each subwatershed affected by project activities.
- Base a Supplemental Draft EIS upon a scientifically peer-reviewed standard which places a scientifically-derived upper limit on subwatershed-level detrimental soil disturbance.

OBJECTION STATEMENT: The EIS relies upon scientifically invalid methodologies for estimating past and project-related soil detrimental disturbance (DD). AWR comments stated:

> The DEIS relies on soil quality standards to limit damage to soils while carrying out the next set of management actions and fails to provide any scientifically justified metrics for measuring and monitoring soil productivity changes as a result of forest management.
>
> … The DEIS does not disclose the reliability or validity of the soil survey methodology. This is especially troubling because the cited Protocol doesn't consider that a professional level of expertise is necessary for conducting valid surveys of soil conditions.

REMEDY:

- Prepare a Supplemental DEIS that discloses the methodology used to measure detrimental soil disturbance in each project activity area.
- Prepare a Supplemental DEIS that provides a table that discloses the current amount of detrimental soil disturbance in each project activity area, and the amount of detrimental soil disturbance after logging and/or burning is completed.

OBJECTION STATEMENT: The EIS relies upon scientifically invalid methodologies for protecting soil productivity. The DEIS at 214 states:

> Current understanding is that site quality will be maintained if less than 15% of an area is detrimentally impacted after disturbance (Dumroese and others 2000, PF Doc. Soil-R-109; Powers and others 1998, PF Doc. Soil-R-77). When more than 15% of the soil resources are in low quality or non-functional condition, additional negative effects may become difficult to mitigate or restore.

The DEIS does not disclose that the 15% threshold is not based upon scientifically or publicly (i.e., NEPA) developed limitations on soil damage. The DEIS at 228 states, "All of the proposed harvest units under either alternative would meet Regional soil quality and Forest Plan standards." This statement is not reconciled with the results of monitoring of DD in activity areas (as found in the forest plan monitoring report cited on the same page), which strongly argue otherwise. NFMA requires the Forest Service to "ensure that timber will be harvested from National Forest System lands only where—soil, slope, or other watershed conditions will not be irreversibly damaged." [16 U.S.C. 1604 (g)(3)(E).] The EIS thus violates NFMA and NEPA.

We note that the Region 1 soil quality standards (SQS) areal extent percentage limits are based on feasibility of timber sale implementation rather than concerns over soil productivity; and additionally we have the bulk density increase limit is based upon the limitations of detection by FS bulk density measuring methods—again, **not concerns over soil productivity.**

The soil proxy—its determination that it may permanently damage the soil over 15% of an activity area and still meet NMFA and planning regulations—is arbitrary. The EIS does not cite any scientific basis for adopting its percent numerical limits. Page-Dumroese et al. 2000 emphasize the importance of validating soil quality standards using the results of monitoring.

In response to public comments on the Kootenai NF's Brush Creek Environmental Assessment, the Forest Service stated:

> Forest ("land") productivity is "the summation of productivities of the individual landscape elements (stands) that comprise the forest and is the integration of soil productivity, species composition and stocking, and stand history (Grgal 2000)". If soil productivity is adversely affected due to compaction, then this will have an impact on the overall productivity of the forest. Forest productivity is difficult to measure, so oftentimes, soil quality is used to estimate the potential productivity (Little et al., unknown year).

The Forest Service's utilization of its proxy (amount of detrimental disturbance) results in some level of observable or measurable soil damage to be considered zero, because it falls below a threshold amount—even though it may cumulatively affect the productivity of the soil. That damage will always be disregarded in analyses that rely on the survey protocols based upon Page-Dumroese et al. (2009). We are aware of no scientific information based upon IPNF data that correlates the proxy (areal extent of detrimental soil disturbance in activity areas) to metrics

of long-term reductions in soil productivity, in order to validate the use of the proxy as a scientifically meaningful estimate of changes in soil productivity.

USDA Forest Service, 2007c states:

> The Regional Soil Quality Standards (R-1 Supplement 2500-99-1) were revised in November 1999 (DEIS, A-11 (EIS Chapter 3). Manual direction recommends maintaining 85% of an activity area's soils at an acceptable productivity potential with respect to detrimental impacts - including the effects of compaction, displacement, rutting, severe burning, surface erosion, loss of surface organic matter, and soil mass movement. This recommendation is based on research indicating that a decline in productivity would have to be at least 15% to be detectable (Powers, 1990).

It is important to note the separate and distinct thresholds in discussing 15% **increases in bulk density**, a threshold below which soil compaction is considered to be detectable, and 15% **areal limit for detrimental disturbance**, the Region 1 Soil Quality Standards upper limit on detrimental disturbance within "activity areas." With that caveat, what Powers had to say in relation to the SQS is quite revealing as quoted in Nesser, 2002:

> …the 15% standard for increases in bulk density originated as the point at which we could reliably measure significant changes, considering natural variability in bulk density… applying the **15% areal limit** for detrimental damage is not correct... that was never the intent of the 15% limit… and **NFMA does not say that we can create up to 15% detrimental conditions**, it says basically that we cannot create significant or permanent impairment, period...

(Emphasis added.) Nesser was an R-1 Soil Scientist at the Regional level. To comply with NEPA, an EIS must disclose internal controversies the agency fully recognizes surrounding its use scientific information for something as critical as standards for compliance with NFMA. NFMA requires that the Forest Service must "insure that timber will be harvested from National Forest System lands only where …soil, slope, or other watershed conditions will not be irreversibly damaged." In effect, the Forest Service's position is that its management may cause long-term or essentially irreversibly damage up to 15% of activity areas in disregard of NFMA—without any scientific basis.

In response to public comment that the 15% areal extent limit had been confused by the Forest Service with the 15% increase in bulk density from soil compaction, the Kootenai National Forest stated:

> Powers (1990) cites that the rationale bulk density is largely based on collective judgment. The FS estimates that a true productivity decline would need to be as great as 15% to detect change using current monitoring methods. Thus the soil-quality standards are set to detect a decline in potential productivity of at least 15%. This does not mean that the FS tolerates productivity declines of up to 15%, **but merely that it recognizes problems with detection limits.** Also, a 15% increase in bulk density may not be detrimental to productivity; site and soil productivity depends on the soil and ecosystem in which it is found.

(USDA Forest Service 2008a, Emphasis added.) This means the 15% bulk density increase limit is based upon the limitations of the agency's methodology for detecting changes in bulk density—not concerns over soil productivity. The Kootenai National Forest has also stated:

The 15% change in aerial extent realizes that timber harvest and other uses of the land result in some impacts and impairment that are unavoidable. **This limit is based largely on what is physically possible**, while achieving other resource management objectives.

(USDA Forest Service 2008b, emphasis added.) This means the SQS 15% detrimental disturbance limit (Standard) for activity areas is based on logging operational feasibility—not concerns over soil productivity. If this is the case, this should be clarified so that the debate about what where such a 15% Standard can progress. For example, whereas this might be appropriate in the suitable timber base, it may be too permissive in unsuitable areas.

The IPNF's approach to soils seems to be—damage now and promise mitigation if necessary, some time later. That is not a sound management strategy for an ecosystem component so fundamentally vital for sustaining every other resource. The EIS does not cite methodology for soil damage mitigation for restoring the productivity of soils that has been validated scientifically or even with the Forest Service's own monitoring.

AWR comments pointed out that the DEIS at 207 states, "Soil wood loss may alter processes of forest regeneration and growth, favoring species requiring lower soil moisture and lower nutrient levels, and provide for a greater potential for soil erosion." Yet there are no estimates of these losses over the areas previously logged or what the proposed action may cause - again ignoring cumulative effects to soil productivity. AWR comments also stated, "Please disclose how the proposed 'treatments' would be consistent with Graham, et al., 1994 recommendations for fine and coarse woody debris, a necessary consideration for sustaining long-term soil productivity."

AWR comments pointed out that the DEIS also considers log landings to be "dedicated" to permanent DD conditions, yet there is no inventory of acres in any given area that accounts for this cause of soil productivity losses.

AWR comments pointed out that the DEIS does not disclose the cumulative loss of soil productivity due to noxious weed infestations in the project area. AWR comments also stated, "Please disclose the results monitoring of weed treatments on the IPNF that have been projected to significantly reduce noxious weed populations over time, or prevent spread. This is an ongoing issue of land productivity."

AWR comments asked, "Please disclose measures of, or provide scientifically sound estimates of, detrimental soil disturbance or soil productivity losses (erosion, compaction, displacement, noxious weed spread) attributable to off-road vehicle use."

REMEDY:

- Prepare a Supplemental DEIS that quantifies the project area extent of soils with impairment or experiencing detrimental impacts based upon the presence of noxious weeds.
- Prepare a Supplemental DEIS that includes project standards for noxious weed management which address the cause of the noxious weed problem through prevention.
- Prepare a Supplemental DEIS that discloses scientific data showing correlations of measures of detrimental disturbance on the IPNF with measures of changes in soil productivity.
- Disclose the scientific methodology the EIS relies upon for its assumption that past soil damage in the project area has recovered through natural processes.

- Disclose scientifically validated methodology for soil damage mitigation the Forest Service relies upon with this project.

OBJECTION STATEMENT: The EIS does not consider impacts on bull trout Critical Habitat immediately adjacent/downstream of the Beaver Creek Project Area, and has not properly consulted with the U.S. Fish and Wildlife Service on Critical Habitat. AWR comments stated, "This watershed is functioning at risk or unacceptable risk for habitat parameters important to bull trout and other native fish will remain so post project." Also, "The Forest Service should formally consult with the Fish and Wildlife Service and initiate a project that will recover bull trout instead of maintaining them at risk for extinction in violation of the Endangered Species Act."

The EIS correctly notes that Beaver Creek is not designated Critical Habitat for bull trout, however this watershed empties into the North Fork Coeur d'Alene River, which is designated Critical Habitat for bull trout. The Federal Register Critical Habitat Rule (Vol. 75, No. 200 / Monday, October 18, 2010) notes: "The mainstem Coeur d'Alene River and North Fork Coeur d'Alene Rivers have been designated as critical habitat for bull trout since September 26, 2005 (70 FR 56212). This critical habitat revision extends the designation into several tributaries of the North Fork Coeur d'Alene and St. Joe Rivers, but does not revise existing critical habitat on the mainstem or North Fork."

Even though adverse cumulative effects in Beaver Creek and the watershed continue to affect bull trout Critical Habitat immediately downstream, the EIS failed to adequately and properly consider those effects in its analyses.

The 2010 Critical Habitat Rule also notes: "the mainstem Coeur d'Alene River is identified as a migratory corridor and provides the PCEs necessary for seasonal use (primarily spring and late fall) by migrating bull trout." The North Fork Coeur d'Alene River empties into the mainstem Coeur d'Alene River.

The IPNF has not performed formal forest plan-level consultation with the U.S. Fish and Wildlife Service since the forest plan INFISH amendment. Subsequently in 2010, bull trout Critical Habitat was designated in the Coeur d'Alene River Basin and across the IPNF. In order to comply with the Endangered Species Act (ESA), the IPNF must complete formal consultation regarding Critical Habitat designations before possible adverse effects, such as from the Beaver Creek Project, occur to Critical Habitat.

REMEDY:

- Prepare a Supplemental Draft EIS that adopts the direction in the 1998 Bull Trout Biological Opinion to create riparian, watershed, and fisheries standards into the Project.
- Prepare a Supplemental Draft EIS following formal consultation on the INFISH-amended forest plan in the context of forestwide bull trout Critical Habitat designation.

OBJECTION STATEMENT: The IPNF has not properly consulted with the U.S. Fish and Wildlife Service concerning the fisher. AWR comments stated:

> …USFWS found "substantial scientific or commercial information indicating that listing a [Distinct Population Segment] of fisher in the [Northern Rocky Mountains] of the United States [under the ESA] may be warranted." 75 Fed. Reg. 19925 – 19935 (April 16, 2010).

In particular, USFWS found that listing the Northern Rockies fisher under the ESA may be warranted in primary part "due to the present and potential future modification and destruction of habitat from commercial timber harvest and commercial wood production by methods that may prevent succession to the mature forest stages preferred by fishers." The Forest Service admits that the fisher and/or its habitat are present within the project area and would be impacted by the project. The Forest Service did no ESA consultation for the fisher for this project.

REMEDY:

- Prepare a Supplemental Draft EIS following formal consultation on the fisher.

OBJECTION STATEMENT: The IPNF has not properly consulted with the U.S. Fish and Wildlife Service concerning the wolverine. AWR comments stated:

Lofroth (1997) in a British Columbia study, found that wolverines use habitats as diverse as tundra and old-growth forest. Wolverines are also known to use mid- to low-elevation Douglas-fir forests in the winter (USDA Forest Service, 1993). The cumulative impacts of logging and road building on a species that depends upon remote, wild areas remain unexplored.

…How will the decreased elk security and thermal cover affect wolverines? Please formally consult with the US FWS on the impact of this project on wolverines.

…What is the U.S. FWS position on the impacts of this Project on wolverines…? Have you conducted ESA consultation?

… The wolverine …was recently determined to be warranted for listing under the ESA. 75 Fed. Reg.78030 (Dec. 14, 2010). It is currently a candidate species, waiting for work to be completed on other species before it is officially listed. The USFWS found that "[s]ources of human disturbance to wolverines include . . . road corridors, and extractive industry such as logging . . .." The … wolverine and/or its habitat are present within the project area and would be impacted by the project. The Forest Service must go through ESA consultation for the wolverine for this project.

REMEDY:

- Prepare a Supplemental Draft EIS following formal consultation on the Proposed wolverine.

OBJECTION STATEMENT: The IPNF has not properly consulted with the U.S. Fish and Wildlife Service concerning the Canada lynx. AWR comments stated:

The United States District Court recently ruled that the (Forest) Service has to do a programmatic consultation with the USFWS on the NRLMD. Have you done this yet?

In December 1999, the Forest Service and Bureau of Land Management completed their "Biological Assessment Of The Effects Of National Forest Land And Resource Management Plans And Bureau Of Land Management Land Use Plans On Canada Lynx" ("Programmatic BA"). The Programmatic BA concluded that the current programmatic land management plans "may affect, and are likely to adversely affect, the subject population of Canada lynx." The BA team recommended amending or revising Forest

Plans to incorporate conservation measures that would reduce or eliminate the identified adverse effects to lynx. The Programmatic BA's determination means that Lolo Forest Plan implementation is a "taking" of lynx.

REMEDY:

- Prepare a Supplemental Draft EIS following formal consultation on the forest plan in the context of forestwide Canada lynx Critical Habitat designation and the NRLMD.

OBJECTION STATEMENT: The Forest Service lacks scientifically credible direction for maintaining viable populations of the Canada lynx. AWR comments stated:

> We also have to question the validity of the percentage habitat standards set by the LCAS itself. The Forest Service would be hard-pressed to find many Lynx Analysis Unit in the Northern Region—heavily logged or otherwise—that already don't meet these percentages. Basically, what these Standards accomplish is to validate the management status quo—the very situation that led to the listing of the lynx under the ESA.

The EIS does not indicate if surveys for Canada lynx have ever been done in the project area.

The IPNF must also manage consistently with the Amended Lynx Conservation Agreement between the Forest Service and the U.S. Fish & Wildlife Service.

The EIS is not following the best available science for lynx. Squires et al. (2010) with additional research identified that older, multi-storied forests are essential as winter lynx habitat, and thus essential for the viability of lynx. The reduction of any of this key winter habitat may cause a risk to lynx viability, since lynx are already at a threshold level of survival in regards to winter hare populations; even minor reductions may result in winter starvations for lynx (Id.). It is currently recognized that there is a threshold of forest thinning and logging below which lynx may not persist (Squires et al. 2010). The EIS does not address the connection between the historic loss of lynx winter habitat and the population decline of lynx in the Northern Rockies. The proposed management of winter hare habitat will not ensure viability of the lynx.

The EIS does not demonstrate compliance with direction in the Northern Rockies Lynx Management forest plan amendment, nor does it address the issue of lynx critical habitat.

REMEDY:

- Prepare a Supplemental Draft EIS following independent scientific peer review of the NRLMD.

OBJECTION STATEMENT: The IPNF fails to assure viable populations of old-growth associated wildlife species. AWR comments stated:

> (T)he IPNF lacks an accurate, reliable forestwide old-growth inventory which is a necessity for making decisions that will maintain current old growth levels and ensure that there is adequate recruitment old growth to meet old growth dependent species' needs forest-wide.

…According to the DEIS, "The majority of the unmanaged stands in the watershed are approximately 110-120 years old[1]…" and "…there is a need to manage for the arrangement of potential future old growth…" (DEIS at 5, 6). In spite of this statement, the DEIS fails to describe the desired future condition for this important wildlife habitat based on the best available science, nor does it describe how the proposed action alternatives would achieve a science-based future condition for old growth habitat (and therefore old growth dependent species) in the Beaver PA.

The Forest Service should identify areas that will be set aside in order to preserve and create habitat for old-growth MIS and other key wildlife based upon the HRV of old growth and the latest ecological science. This is necessary in order to meet forest plan and legal requirements for insuring viable populations of wildlife.

The Ninth Circuit Court of Appeals ruled that the Forest Service "must both describe the quantity and quality of habitat that is necessary to sustain the viability of the species in question and explain its methodology for measuring this habitat." (*Lands Council v. McNair*). Assuring viability of most wildlife species is forestwide issue. The cumulative effects of carrying out multiple projects simultaneously across a national forest makes it imperative that population viability be assessed at least at the forestwide scale (Marcot and Murphy, 1992; also see Ruggiero et al., 1994a). The IPNF Forest Plan Standards are not based upon scientific research regarding the forestwide amount and distribution of habitat needed to insure viability of old-growth associated wildlife.

The failure to maintain an accurate and up-to-date inventory old growth is not merely a paperwork exercise. The pileated woodpecker and northern goshawk are IPNF Management Indicator Species (MIS) associated with mature to old growth forest habitats, and apparently the FS has not documented any successful reproduction in the Beaver Creek Project Area. This exacerbates our viability concerns caused by the Forest Service's continuing failure to conduct forest plan-required population trend monitoring. The fisher, black-backed woodpecker, and flammulated owl are three of the Sensitive species that rely heavily upon the structure found in old growth. All such species would see habitat degraded by this timber sale and other cumulative management activities, and have their viability further threatened.

The Committee of Scientists (1999) emphasized the importance of inventories. The regulations required that in providing for diversity of plant and animal communities, "inventories shall include quantitative data making possible the evaluation of diversity in terms of its prior and present condition." (36 C.F.R. Sec 219.26 (1984)) The Committee of Scientists (1999) explained, "No plan is better than the resource inventory data that support it. Each forest plan should be based on sound, detailed inventories of soils, vegetation, water resources, wildlife, and the other resources to be managed."

AWR comments also included:

As stated in Zack et al, 1997:

Desired condition maintains <u>30% total mature and old forest</u> on National Forest lands, assessed at the scale of the entire National Forests ownership in the Coeur d'Alene Geographic Area. **Desired future condition is <u>15% mature forest and 15% old forest</u>. However, since there is not currently that much old forest, a compensating**

[1] These stands are the predominant ones the project proposes for logging/fuel reduction.

**amount of mature forest will be designated as replacement old forest.** (Emphasis added.)

…The DEIS identifies a key issue for forest vegetation "relative to the historic range of variability, minimum/maximum/average patch size, the Forest Plan, and resilience to potential future disturbances." Comparisons of the current conditions to the historic range of variability (HRV) for the project area would logically be based upon data on historic conditions. However, there is a lack of cited documents containing historic data gathered in the Beaver Creek Project Area for these components, which leaves the rationales for proposed actions related to those components without scientific support.

…Furthermore, even though "the goal of the treatment is to retain the largest, most resilient trees over the long term" the DEIS states that "[h]arvest of some large-diameter trees may occur." This is inconsistent with the best science on the relative scarcity of large, old trees on the landscape and the need to avoid removing them.

The DEIS's analysis methodology allows the Forest Service to continually log mature forest whenever and wherever, without considering the potential of those areas to achieve the HRV of old growth, or the impacts of proposed actions on the connectivity, patch size and edge effects in existing or potential old growth.

… The EIS conflates "allocated old growth" with old growth that meets Green et al. criteria in various analyses. This is not in accord with the best science, NFMA, or NEPA, since the DEIS admits that "allocated" old growth is not required to meet the criteria.

Again, we emphasize that, separate from other vegetation and fuels considerations, the Old Growth section (pp. 53 – 56) doesn't even purport to consider HRV or any historic conditions.

The IPNF has consistently ignored the Region's guidance document for old-growth species' habitat management (USDA Forest Service, 1990). From USDA Forest Service, 1990:

> The greater vertical and horizontal diversity found within an old-growth stand allows for niche specialization by wildlife. Although the individual wildlife species occurring may not be unique to old-growth stands, the assemblage of wildlife species and the complexity of interactions between them are different than in earlier successional stages. P. 2
>
> Forest-wide estimates are needed of the relative abundance, patch sizes, and spatial distribution of old-growth habitat by forest type. P. 3
>
> In northwestern Montana, McClelland (1977) described a general trend of increased species richness in cavity-nesting birds from young to old-growth stands of larch and Douglas-fir. Old growth was particularly important in providing an adequate number of suitable nesting trees for cavity-nesters. P. 6
>
> Patch size correlates strongly with the numbers of species and individuals that can be supported and with rates of extinction and recolonization." …Of 48 old-growth-associated species occurring in the Northern Region, about 60 percent are thought to require stands larger than 80 acres. P. 8

Roads are generally undesirable within an old-growth habitat patch. P. 9

Providing for well-distributed habitat patches with interconnections between patches thus is necessary to maintain species diversity over the long term. P. 9.

McClelland (1979a) noted that pileated woodpeckers usually avoid open areas for feeding, preferring forests with a significant old-growth component and high basal area. …Bull and Meslow (1977) classified preferred feeding habitats as having high densities of snags and logs, dense canopies, and tall ground cover, with more than 10% of the ground area covered by logs. Pp. 11-12.

In the northern Rockies, the density of snags and stumps at pileated feeding sites (not throughout the feeding range) averaged 7 per acre (Aney and McClelland 1985). At least 500 acres of suitable feeding habitat is needed within the home range of a pair (McClelland 1979a). P. 12.

Monitoring Old-growth Habitats and MIS
Landres et al. (1988) pointed out that identifying old-growth stands based on habitat requirements of the MIS, and then monitoring habitat conditions for those MIS to assess old-growth conditions, is circular reasoning. Because old-growth associated MIS are intended to represent a community of wildlife species, stand selection, management and monitoring should not be directed only towards the minimum requirements of MIS. Both general habitat conditions in relation to an ecological classification and suitability of the stands or patches to MIS need to be monitored. P. 38, emphasis added.

Three levels of monitoring intensity have been identified for Forest Plan implementation: implementation, effectiveness, and validation monitoring. Monitoring of habitats should be emphasized at all levels, with additional monitoring of habitat occupancy and population trends of MIS as appropriate. P. 38.

Monitoring Intensity
Model predictions can be tested by sampling a portion of the designated old-growth stands to determine the actual rate of occupancy by management indicator species. P. 38.

**Validation Monitoring**
Model validation should include tests to determine whether model output correctly predicts habitat quality. Reproductive performance over time is a good indicator of site productivity. P. 39.

**Validation of Effects of Management Practices on Population Viability**
Monitoring data should enable comparison of 'control' and 'treatment' territories. Otherwise, it will be unclear whether observed population changes were due to habitat change, weather, prey population cycles, or other factors. P. 39.

**Methods For Habitat Monitoring**
Aerial photo interpretation or other remotely-sensed data are suitable to determine cover type, overstory tree size, percent canopy cover, and stand acreage. Additional

sampling effort will be needed to obtain reasonably accurate estimates of size and density of dead trees, standing and down. P. 40.

**Methods For Monitoring Pileated Woodpecker**
(field methodologies given, p. 40)

**Methods For Monitoring Goshawk**
(field methodologies given, pp. 40-41)

**Methods For Monitoring Marten**
(field methodologies given, p. 41)

… Since there is no scientific basis for assuming that 10% old growth is enough for species viability, and since there is no scientific basis to support the IPNF's use of its MIS as adequately "indicating" for other species including the Sensitive wolverine, black-backed woodpecker, fisher, flammulated owl, fringed myotis, pygmy nuthatch, western toad, etc., the proof would be in the monitoring. And the Forest Service has not completed monitoring that would validate the assumption inherent in the Forest Plan's old-growth habitat standards—that they are adequate for assuring old-growth species' viability.

Traill et al. 2010 and Reed et al. 2003 are published, peer-reviewed scientific articles addressing determination of a "minimum viable population" and explain that minimum viable population has been drastically underestimated in past. The Forest Service has not identified the best available science that has provided scientifically sound, quantitative minimum viable population determinations for wildlife on the IPNF.

Juel, 2003 identifies IPNF and Region-wide problems with management of old growth and MIS. That report validated the discussions of Yanishevsky, 1987 and Yanishevsky, 1994 who provided a scientific analysis of the Region 1 approach to old-growth habitat and species viability.

The Committee of Scientists (1999) state:

> Habitat alone cannot be used to predict wildlife populations…The presence of suitable habitat does not ensure that any particular species will be present or will reproduce. Therefore, populations of species must also be assessed and continually monitored.

AWR DEIS comments include:

> The DEIS and Wildlife Report do not indicate that any pileated nests have been found in the PA. The failure to document pileated woodpecker nesting may be connected to fact that the IPNF Forest Plan does not recognize that the desirable average snag diameter is almost 30" dbh for this MIS. The need for large diameter snags for nesting trees for the pileated woodpecker is downplayed in the DEIS. McClelland and McClelland (1999) found, in their study in northwest Montana, that the average nest tree was 73 cm. (almost 29") dbh. The DEIS does not consider that such large snags are absolutely necessary for keystone wildlife species such as the pileated woodpecker, therefore absolutely necessary for the many old growth dependent species that rely upon these birds' excavated cavities for nesting and refuge.

In violation of NFMA, the DEIS fails to disclose the action alternatives' impacts on potential pileated territories, which is the basis for Forest Plan old growth standard 10f.

…The DEIS does not present data on MIS population abundance or nesting success in the project area.

…The (EIS) is not clear if any MIS were found. What MIS did you find, how many and how did you look for these MIS?

…Since there is no scientific basis for assuming that 10% old growth is enough for species viability, and since there is no scientific basis to support the IPNF's use of its MIS as adequately "indicating" for other species including the Sensitive wolverine, black-backed woodpecker, fisher, flammulated owl, fringed myotis, pygmy nuthatch, western toad, etc., the proof would be in the monitoring. And the Forest Service has not completed monitoring that would validate the assumption inherent in the Forest Plan's old-growth habitat standards—that they are adequate for assuring old-growth species' viability. We also note that the Forest Service has stated that the IPNF old-growth MIS don't really work as the forest plan intended, which leaves NFMA's viability purposes short-changed.

The key factors that affect population dynamics (Mills,1994) of those MIS and Sensitive species are not adequately considered in the cumulative effects analyses, therefore viability is not assured, as NFMA requires. The DEIS does not disclose and utilize the best scientific information available on those species, as NEPA requires.

Another MIS old growth dependent species that may be present in the PA is the Northern Goshawk. According to the Beaver Creek Wildlife Report:

> Based on the best available science summarized in the *Management Indicator Species Considerations for the Idaho Panhandle National Forests* (Appendix H), the northern goshawk population trend **appears** to be stable and their habitat is abundant and well-distributed across the Region. Additionally, the IPNF contains substantially more habitat distributed throughout the Forest than needed to support a minimum viable population of northern goshawk. Northern goshawks and active nest sites are documented across the Forest, including territories that have had multiple years of documented occupancy and reproductive success, and surveys periodically locate new territories and nest sites. Wildlife Report at 48. (Emphasis added)

These statements regarding regional goshawk population trends and presence cannot be relied upon to conclude that the Beaver PA now provides, and will continue to provide adequate habitat to support goshawks. Site specific surveys should be conducted to determine whether goshawks are present in the Beaver PA.

The Wildlife Report continues:

> The northern goshawk has a home range size of 5,000 – 6,000 acres. The Beaver Creek Project area has sufficient nesting and foraging habitat to hypothetically support four home ranges, and therefore serves as the cumulative effects area (PF Doc. WL 39). The project area contains minimal amounts of old growth (i.e. 958 acres or 3.4 percent). Capable goshawk foraging, nesting, and post-fledgling habitat occurs in the project area (PF Doc. WL 27, WL 42, and WL 61). The project area contains approximately 5,221 of capable nesting habitat that is well distributed

throughout the Beaver Creek Project area (PF Doc. WL 61, WL 76). Wildlife Report at 48.

Likewise, these estimates of the amounts of capable foraging, nesting and post-fledging habitat that exist in the PA provide no assurance that the area is capable of and/or actually supports breeding goshawk pairs and will continue to do so after implementation of the action alternatives.

The DEIS does not present data on MIS population abundance or nesting success in the project area.

… Logging and other disturbance associated with the project and … Fire Plan could affect northern goshawk nesting, post-fledging family habitat, alternative nesting, foraging, competitors, prey and potential habitat, including areas far from cutting units. Research in the Kaibab National Forest found that goshawk populations decreased dramatically even after partial logging and even when large buffers around nests were provided (Crocker-Bedford, 1990).

The IPNF ignores important scientific information on goshawk habitat requirements. Reynolds, et al. 1992 provide a basis for a northern goshawk conservation strategy that could be implemented if forestwide habitat considerations were to be truly taken into account. They suggest that it is essential to viability of goshawks that 20-50% of old growth within their nesting areas be maintained, yet the IPNF fails to recognize that (see also Suring et al. 1993). Graham, et al. 1999, USDA Forest Service 2000b, Iverson et al. 1996, and Suring et al. 1993 are more examples of northern goshawk conservation strategies the FS might adopt for this Forest or Region, if emphasis was more appropriately placed on species conservation and insuring viability rather than justification for resource extraction.

USDA Forest Service 2000b recommends that forest opening greater than 50-60 acres be avoided in the vicinity of goshawks. At least five years of monitoring is necessary to allow for effective estimates of habitat quality (Id.). Research suggests that a localized distribution of 50% old growth should be maintained to allow for viability of goshawks (Suring et al. 1993).

The scientific information provided in Center for Biological Diversity, 2004, also conflicts with the IPNF's analyses and conclusions regarding goshawk viability, and includes vital information on goshawks not considered by the IPNF.

Goshawks are often associated with a thick overstory cover and areas with a large number of large trees. For example, Hayward and Escano (1989) recommend an overstory canopy between 75 and 80%. According to the BE/BA for the Keystone Quartz EIS in the Beaverhead NF, "Goshawks prefer vegetation structure that permits them to approach prey unseen and to use their flight maneuverability to advantage (Widen, 1989, Beier and Drennan 1997)…"

Opening forests by logging will increase suitability of species as the red-tailed hawk, who competes with goshawks, as well as the great horned owl, a goshawk predator. The problems of habitat conversion from that of goshawk to red-tailed hawk has been reported by La Sorte et al., 2004 based on a study of over 120 goshawk territories.

Clough (2000) noted that in the absence of long-term monitoring data, a very conservative approach to allowing logging activities near active goshawk nest stands should be taken to ensure that goshawk distribution is not greatly altered. This indicates that the full 180-acre nest area management scheme recommended by Reynolds et al. (1992) should be used around any active goshawk nest on the Forest. Removal of any large trees in the 180-acre nesting area would contradict the Reynolds et al. (1992) guidelines.

Greenwald et al., 2005 reviewed the current literature on goshawk habitat relationships applicable to the Northern Rockies. Nine of 12 studies demonstrated selection for stands with higher canopy closure, larger tree size, and greater numbers of large trees than found in random stands. Some notable statements and conclusions include:

> …Most studies found that goshawks avoided open areas and logged early-seral stands; none of the studies cited in this paper found selection for such features.
>
> …While some studies suffered from small sample sizes or relatively short sampling periods, the consistency of results demonstrates goshawk selection for late-successional forest structures (e.g., high canopy closure, large trees for forest type, canopy layering, abundant coarse woody debris) when using areas within their studied home ranges. … This is not to say that goshawks only forage or roost in mature stands, but rather that such stands are disproportionately selected.
>
> … (R)eviewed studies found goshawks avoided open areas, particularly logged open areas, and none found selection for openings.
>
> … The 5 studies correlating nest occupancy and productivity with habitat features consistently demonstrated a relationship between closed-canopied forests with large trees and goshawk occupancy. Occupancy rates were reduced by removing forest cover in the home range, which thereby resulted in reduced productivity because there were fewer active breeding territories. (Internal citations omitted.)
>
> Seeking to promote abundant populations of 14 prey species, Reynolds et al. (1992) recommend maintaining 20% of the landscape in grass–forb or seedling–sapling stage forest, 20% in young forest, 20% in mid-aged forest, and 40% in mature and old forests. … Given the above findings that goshawks generally avoid open areas and early-seral forest, that logging reduces goshawk occupancy and productivity, and a lack of evidence that creating openings or young forest through logging benefits goshawks, these recommendations appear to lack support in research produced since 1992.
>
> Across most of the western United States, mature and old-forests have declined to much less than 40% of the landscape. Given these declines and the lack of information on the amounts of mature and old-forest goshawks require, we recommend protecting existing mature and old-forest characteristics and ensuring that such forests are allowed to develop in proportions similar to presettlement conditions. This can be accomplished by restricting cutting to small trees, and prohibiting large reductions in canopy closure. A similar proposal was recently adopted by Region 5 of the United States Forest Service for the Sierra Nevada. In sum, based on apparent inconsistencies between subsequent research and Reynolds et al. (1992), we recommend adaptation of

the management guidelines to incorporate results of numerous studies conducted since 1992. (Internal citations omitted.)

The issue of fragmentation should have been more thoroughly considered with respect to goshawks. Other edge-adapted species may compete with the goshawk and displace the goshawk if inadequate amounts of interior forest habitat are available. Crocker-Bedford (1990) recommends that a foraging area of >5000 acres of dense forest, in which no logging is permitted, be designated for goshawks, with additional areas of 2500-5000 acres of more marginal habitat designated beyond this 5,000 acre foraging area.

One of the Forest Service's Samson (2006) reports says that 110 breeding individuals (i.e. 55 pairs) are necessary for a viable goshawk population in R1. Objection Attachment 1 is a map showing the results from the 2005 R1 region-wide goshawk survey using their "Woodbridge and Hargis" goshawk monitoring protocol, which is published as a USFS technical report. That 2005 detection map says there were 40 detections in 2005 in Region 1. So the results of this survey essentially show that the population in Region 1 is not viable according to the agency's own science (only 40 instead of 55). And some of the detections may have been individuals using the same nest, so the number of nests (and therefore number of breeding pairs) could be even lower than 40.

AWR comments also stated:

…Regarding another Sensitive species, the black-backed woodpecker, Cherry (1997) states:

> The black-backed woodpecker appears to fill a niche that describes everything that foresters and fire fighters have attempted to eradicate. For about the last 50 years, disease and fire have been considered enemies of the 'healthy' forest and have been combated relatively successfully. We have recently (within the last 0 to 15 years) realized that disease and fire have their place on the landscape, but the landscape is badly out of balance with the fire suppression and insect and disease reduction activities (i.e. salvage logging) of the last 50 years. Therefore, the black-backed woodpecker is likely not to be abundant as it once was, and continued fire suppression and insect eradication is likely to cause further decline.

The Region 1 black-backed woodpecker assessment (Hillis et al., 2003) notes that the black-backed woodpecker depends upon dead and dying trees:

> Black-backed woodpeckers occupy forested habitats that contain high densities of recently dead or dying trees that have been colonized by bark beetles and woodborer beetles (Buprestidae, Cerambycidae, and Scolytidae). These beetles and their larvae are most abundant within burned forests. In unburned forests, bark beetle and woodborer infested trees are found primarily in areas that have undergone natural disturbances, such as wind-throw, and within structurally diverse old-growth forests. (Internal citations omitted.)

> …Black-backed woodpeckers also occur in unburned landscapes Bull et al.1986, Goggans et al.1987, Bate 1995, Hoffman 1997, Weinhagen 1998, Steeger and Dulisse in press, Taylor unpublished data). Taylor's observations of black-backed woodpeckers in unburned forests in northern Idaho suggest that they may occur at substantially lower densities in unburned forests, but no rigorous comparisons between black-backed woodpecker densities in burned and unburned forests have been done. Hutto (1995) hypothesized that black-backed woodpeckers reproduce at

source reproductive levels in burns, but may drop to sink reproductive levels in the intervening periods between large burns.

Hutto (2008) noted that the vast majority, though not all, of his survey detections of this species were in burned areas.

Dolan (1998a,b) states in regards to impacts on the black-backed woodpecker due to fire suppression and post-fire logging states:

> It seems that we have a huge cumulative effects problem here, and that each salvage sale removes habitat that is already very limited. We are having trouble avoiding a "trend to federal listing" call for the BBWO in salvaging burns, unless comparable acres of fire-killed dead are being created through prescribed burns.

The comments by other biologists attached to Dolan, 1998a,b reveal that the FS has yet to design a consistent, workable, scientifically defensible strategy to ensure viable populations of the black-backed woodpeckers. The fire suppression and "salvage" logging policies of the IPNF are the biggest threat to black-backed woodpecker population viability on the Forest, unfortunately in failing to create a conservation strategy the cumulative impacts of the IPNF's ongoing fire suppression policy will remain unexamined. The …project continues an unspoken management for extinction policy.

Wisdom et al. 2000 state that "Insect infestations and recent wildfire provide key nesting and foraging habitats" for the black-backed woodpecker and "populations are eruptive in response to these occurrences."

The EA also fails to disclose the impacts of the thinning on the quality of habitat for black-backed woodpecker once a fire burns through thinned areas. Hutto (2008) states:

> (T)he legacy (Franklin et al. 2000) of forest structure (e.g., tree sizes and densities) prior to fire disturbance affects the suitability to fire specialists after disturbance. Black-backed Woodpeckers, for example, require burned forests that are densely stocked and have an abundance of large, thick-barked trees favored by wood-boring beetles (Hutto 1995, Saab and Dudley 1998, Saab et al. 2002, Russell et al. 2007, Vierling et al. 2008). Indeed, data collected from within a wide variety of burned forest types show that the probability of Black-backed Woodpecker occurrence decreases dramatically and incrementally as the intensity of traditional harvest methods increases (Fig. 4). Whether forests that have been ''restored'' through nontraditional harvest methods still retain the characteristics needed by Black-backed Woodpeckers after they burn severely under extreme weather conditions is currently unknown.
>
> … The flammulated, boreal owl and the great gray owl are species of concern that are sensitive to logging and other management activities. The IPNF provides inadequate management strategies to insure their viability. See, for example, Hayward and Verner, 1994.

Wright, et al. (1997) point out that habitat restoration for the flammulated owl must be carefully targeted to the correct habitat types. The FS can't simply cut and/or burn forest area and expect flammulated owls to start using it as habitat. Wright, et al. (1997) state:

> (W)e never detected Flammulated Owls in mesic old-growth ponderosa pine stands with a Vaccinium understory. Thus, within suitable landscapes, it may be most effective to conserve and restore stand structural characteristics within suitable habitat

types (e.g., xeric ponderosa pine/ Douglas-fir stands in our study area), rather than within any stand containing ponderosa pine trees.

… The Project is also designed to reduce under-story density through thinning. What surveys has the IPNF specifically designed to detect flammulated owls? The FS has not developed a conservation strategy for the flammulated owl in the IPNF, or in the Northern Rockies. Absent an appropriate landscape management strategy for insuring their viability, based upon the best available science, it is arbitrary and capricious to dismiss potential impacts on the ground where the FS has failed to conduct the kind of comprehensive surveys that would reveal their presence. This convenient excuse for not protecting for a species that is becoming exceedingly rare, a strategy of managing for extinction (since protection premised on detection affords greatest protection to the species that least need it) has been condemned by the FS's own leading expert in the northern region, Mike Hillis:

> With the exception of the Spotted Owl…, the U.S. Forest Service has not given much emphasis to owl management. This is contrary to the National Forest Management Act of 1976 (NFMA) which mandates that all wildlife species be managed for viable populations. However, with over 500 vertebrate species this would be difficult for any organization. Recognizing the absence of detailed information on owl habitat, the apparent association of owls with snags, mature, and old-growth timber (both rapidly declining), it seems inconsistent that the U.S. Forest Service has placed little emphasis on owl management. One might conclude that the agency's painful experiences with the Spotted Owl in Oregon and Washington have evolved into a 'hear no evil, see no evil' approach for other forest owls as well.

[Holt and Hillis, "Current Status and Habitat Associations of Forest Owls in Western Montana" (1987).]

…The DEIS does not adequately consider cumulative effects on upland habitat for boreal toads. This does not make sense, since such small populations that are likely to persist are especially susceptible to fragmentation and extirpation due to isolation of smaller populations. See Maxell, 2000. In fact, the IPNF has never performed a genuine analysis of cumulative impacts of logging activities on boreal toads.

From Ch. 3 p. 173 of the Bristow Area Restoration Project EA, Kootenai National Forest, (USDA Forest Service, 2003a):

> Little quantitative data are available regarding the boreal toad's use of upland and forested habitats. However, boreal toads are know to migrate between the aquatic breeding and terrestrial nonbreeding habitats (TNC Database 1999), and that juvenile and adult toads are capable of moving over 5 km between breeding sites (Corn et al. 1998[2]). It is thought than juveniles and female boreal toads travel farther than the males (Ibid). A study on the Targhee National Forest (Bartelt and Peterson 1994) found female toads traveled up to 2.5 kilometers away from water after breeding, and in foraging areas, the movements of toads were significantly influenced by the distribution of shrub cover. Their data suggests that toads may have avoided macro-habitats with little or no canopy and shrub cover (such as clearcuts). Underground burrows in winter and debris were important components of toad selected micro-sites in a variety of macro-habitats. The boreal toad digs its own burrow in loose soil or

[2] Cited and included as Maxell et al., 1998 herein.

uses those of small mammals, or shelters under logs or rocks, suggesting the importance of coarse woody debris on the forest floor. …(T)imber harvest and prescribed burning activities could impact upland habitat by removing shrub cover, down woody material, and/or through compaction of soil.

Montana Fish, Wildlife & Parks, 2005 (a more recent version of the above cite "TNC Database, 1999") also discuss boreal toad habitat:

Habitats used by boreal toads in Montana are similar to those reported for other regions, and include low elevation beaver ponds, reservoirs, streams, marshes, lake shores, potholes, wet meadows, and marshes, to high elevation ponds, fens, and tarns at or near treeline (Rodgers and Jellison 1942, Brunson and Demaree 1951, Miller 1978, Marnell 1997, Werner et al. 1998, Boundy 2001). Forest cover in or near encounter sites is often unreported, but toads have been noted in open-canopy ponderosa pine woodlands and closed-canopy dry conifer forest in Sanders County (Boundy 2001), willow wetland thickets and aspen stands bordering Engelmann spruce stands in Beaverhead County (Jean et al. 2002), and mixed ponderosa pine/cottonwood/willow sites or Douglas-fir/ponderosa pine forest in Ravalli and Missoula counties (P. Hendricks personal observation).

Elsewhere the boreal toad is known to utilize a wide variety of habitats, including desert springs and streams, meadows and woodlands, mountain wetlands, beaver ponds, marshes, ditches, and backwater channels of rivers where they prefer shallow areas with mud bottoms (Nussbaum et al. 1983, Baxter and Stone 1985, Russell and Bauer 1993, Koch and Peterson 1995, Hammerson 1999). Forest cover around occupied montane wetlands may include aspen, Douglas-fir, lodgepole pine, Engelmann spruce, and subalpine fir; in local situations it may also be found in ponderosa pine forest. They also occur in urban settings, sometimes congregating under streetlights at night to feed on insects (Hammerson 1999, P. Hendricks personal observation). Normally they remain fairly close to ponds, lakes, reservoirs, and slow-moving rivers and streams during the day, but may range widely at night. Eggs and larvae develop in still, shallow areas of ponds, lakes, or reservoirs or in pools of slow-moving streams, often where there is sparse emergent vegetation. Adult and juvenile boreal toads dig burrows in loose soil or use burrows of small mammals, or occupy shallow shelters under logs or rocks. At least some toads hibernate in terrestrial burrows or cavities, apparently where conditions prevent freezing (Nussbaum et al. 1983, Koch and Peterson 1995, Hammerson 1999).

Maxell et al., 1998 state:

We believe that the status of the Boreal toad is largely uncertain in all Region 1 Forests. …Briefly, factors which are a cause for concern over the viability of the species throughout Region 1 include: (1) a higher degree of genetic similarity within the range of Region 1 Forests relative to southern or coastal populations; (2) a general lack of both historical and current knowledge of status in the region; (3) indications of declines in areas which do have historical information; (4) low (5-10%) occupancy of seemingly suitable habitat as detected in recent surveys; (5) some evidence for recent restriction of breeding to low elevation sites and; (6) recent crashes in boreal toad populations in the southern part of its range which may indicate the species' sensitivity to a variety of anthropogenic impacts.

…The key factors that affect population dynamics of Old Growth MIS and Sensitive species are not adequately considered in the DEIS cumulative effects analyses, therefore viability is not assured, as NFMA requires. The DEIS also does not disclose and utilize the best scientific information available on those species, as NEPA requires.

AWR comments stated:

The IPNF fails to take seriously the uncertain and precarious population status of the fisher, as described in Witmer, et al., 1998:

> The status of the fisher in the Western United States is poorly known but generally perceived as precarious and declining. This is a serious issue alone, but it also is a component of the larger problem of the decline of biological diversity. Recovery of species of concern must necessarily focus on the population level, because this is the scale at which genetic variation occurs and because population [sic] are the constituent elements of communities and ecosystems. Systematic habitat alteration and overexploitation have reduced the historical distribution of fishers in suitable habitat in the interior Columbia basin to isolated and fragmented populations. Current populations may be extremely vulnerable to local and regional extirpation because of their lack of connectivity and their small numbers (Id. at 14, internal citations omitted).

The proposed logging could adversely impact fishers and their habitat. Habitat elements for natal and maternal dens are found in large diameter logs or snags, slated to be reduced by the logging. "Though the post-treatment stand condition would not be 'clear cuts', they would be fairly open and Jones (1991) did not expect to find substantial fisher hunting use of plantations by fishers until canopy approached 80% and 10-15 feet respectively (depending on snow depths)" (Flathead NF's Spotted Beetle EA, p. 3-62). The logging, snag removal and other activities associated with the Hidden Lake Fuel Reduction project would negatively affect fisher habitat. Movement, denning, resting areas, genetic diversity, and other aspects of fisher life cycles and fisher survival could be impacted by the project; the FS does not fully consider these elements of the project or adequately mitigate their impacts.

Jones (undated) and the Johnsen (1996) provide examples of possible conservation strategies for the fisher, something the FS has so far neglected to implement for this Sensitive species.

… Under Alternative 2, prescribed burning would occur on 1,214 acres of suitable summer habitat. Prescribed burning is anticipated to remain in the understory of stands, therefore the effect on canopy closure should be minimal. Canopy may be reduced slightly due to passive crown fire that may occur that would result in patches of mortality…. This expected to occur on about 15 percent maximum area of the burn units and would result in these areas no longer being suitable for marten habitat. This would result in a loss of fisher habitat of approximately 182 out of 1,214 acres proposed for burning. Wildlife Report at 79.

Thus fisher habitat, and therefore fishers that may inhabit the Beaver PA will likely be adversely impacted by Alternative 2. For this reason and the reasons stated above, the conclusion in the Statement of Findings is not supported by the information presented in the DEIS.

On the subject of conservation strategies, the Committee of Scientists (1999) state:

To ensure the development of scientifically credible conservation strategies, the Committee recommends a process that includes (1) scientific involvement in the selection of focal species, in the development of measures of species viability and ecological integrity, and in the definition of key elements of conservation strategies; (2) independent scientific review of proposed conservation strategies before plans are published; (3) scientific involvement in designing monitoring protocols and adaptive management; and (4) a national scientific committee to advise the Chief of the Forest Service on scientific issues in assessment and planning.

REMEDY:

- Base a Supplemental Draft EIS upon a scientifically peer-reviewed minimum amount of old growth on the Forest, which includes a buffer amount above what is considered the minimum to insure viable populations of old-growth associated species, so that natural processes that result in loss of old growth do not result in threats to species' viability.
- Base a Supplemental Draft EIS upon scientifically peer-reviewed Standards for distribution of old growth within each Old Growth Management Unit.
- Base a Supplemental Draft EIS upon scientifically peer-reviewed minimum size of blocks of **effective** (meeting all criteria) old growth, below which existing block sizes do not contribute to the forestwide minimum Standard or distribution Standard.
- If the IPNF refuses the three steps above, then base a Supplemental Draft EIS upon minimums of 30% total mature forest and old growth on National Forest lands within each Project Area Old Growth Management Unit. Desired future condition is 15% mature forest and 15% old growth. Where there is not currently that much old growth, a compensating amount of mature forest will be designated as replacement future old growth.
- Identify the areas of forest to meet the above amounts in the Old Growth Management Unit(s) affected by the Project.
- Prepare a Supplemental DEIS that discloses the minimum viable population of all of the Sensitive wildlife species and disclose the quantity and quality of habitat needed to maintain viable populations of each of these species.
- Prepare a Supplemental DEIS that includes scientifically peer-reviewed conservation strategies for attaining those amounts and distribution of habitats.
- To ensure the development of scientifically credible conservation strategies, prepare a Supplemental DEIS that follow the process recommended by the Committee of Scientists, 1999 in the above paragraph.
- Delete treatments in project units that adversely impact the MIS and TES species in a short or medium timeframe.
- Conduct updated scientifically sound survey for the Northern Rockies fisher, wolverine, and lynx for this project.
- Require that Project Monitoring includes old-growth habitat monitoring which creates an internet-based map inventory with linked stand data, updated at annually with all changes fully explained, so the public can make informed judgments as to the accuracy of the inventory.
- Arrange for an independent scientific peer-review of the IPNF's old-growth inventory prior to using its results as a valid estimate of old growth on the Forest.

<u>OBJECTION STATEMENT:</u> Impacts of fire suppression. AWR's comments included:

Disclose when and how the Idaho Panhandle National Forest made the decision to suppress natural wildfire in the Project area and replace natural fire with logging and prescribed burning;

Disclose the cumulative impacts on the Forest-wide level of the Idaho Panhandle National Forest's policy decision to replace natural fire with logging and prescribed burning;

…

Since the project's goals are to reduce the chances that fire will destroy private structures, and harm people, the current fuel/fire hazard situation on land of all ownerships within the WUI (at least the WUI that's relevant to this area) must be displayed on a map. More importantly, the fuel/fire hazard situation post-project on land of all ownerships within the WUI must also be displayed on a map. Based on this mapping of current and projected conditions, please accurately disclose the threats to private structures and people under those scenarios, for all alternatives. It must be discernable why some areas are included for treatment and others are not.

The FS must have a detailed long-term program for maintaining the allegedly safer conditions, including how areas will be treated in the future following proposed treatments, or how areas not needing treatment now will be treated as the need arises. The public at large and private landowners must know what the scale of the long-term efforts must be, including the amount of funding necessary, and the likelihood based on realistic funding scenarios for such a program to be adequately and timely funded.

The FS must assess the fuel and fire risk situation across land ownership boundaries to understand, and disclose to the public, the likely fire scenarios across the area's landscape. Only then can the context of your proposal be adequately weighed on its merits and evaluated on its merits.

The FS (Cohen, 1999) reviewed current scientific evidence and policy directives on the issue of fire in the wildland/urban interface and recommended an alternative focus on structure ignitability rather than extensive wildland fuel management:

> The congruence of research findings from different analytical methods suggests that home ignitability is the principal cause of home losses during wildland fires… Home ignitability also dictates that effective mitigating actions focus on the home and its immediate surroundings rather than on extensive wildland fuel management.
>
> [Research shows] that effective fuel modification for reducing potential WUI fire losses need only occur within a few tens of meters from a home, not hundreds of meters or more from a home. This research indicates that home losses can be effectively reduced by focusing mitigation efforts on the structure and its immediate surroundings. Those characteristics of a structure's materials and design and the surrounding flammables that determine the potential for a home to ignite during wildland fires (or any fires outside the home) will, hereafter, be referred to as home ignitability.
>
> The evidence suggests that wildland fuel reduction for reducing home losses may be inefficient and ineffective. Inefficient because wildland fuel reduction for several hundred meters or more around homes is greater than necessary for reducing ignitions

from flames. Ineffective because it does not sufficiently reduce firebrand ignitions (Cohen, 1999)

That research also recognizes "the imperative to separate the problem of the wildland fire threat to homes from the problem of ecosystem sustainability due to changes in wildland fuels" (Ibid).

Please consider that thinning can result in faster fire spread than in the unthinned stand. Graham, et al., 1999a point out that fire modeling indicates:

> For example, the 20-foot wind speed[3] must exceed 50 miles per hour for midflame wind speeds to reach 5 miles per hour within a dense Stand (0.1 adjustment factor). In contrast, in an open stand (0.3 adjustment factor), the same midflame wind speeds would occur at only a 16-mile-per-hour wind at 20 feet.

Graham, et al., 1999a also state:

> Depending on the type, intensity, and extent of thinning, or other treatment applied, fire behavior can be improved (less severe and intense) or exacerbated." … Fire intensity in thinned stands is greatly reduced if thinning is accompanied by reducing the surface fuels created by the cuttings. Fire has been successfully used to treat fuels and decrease the effects of wildfires especially in climax ponderosa pine forests (Deeming 1990; Wagel and Eakle 1979; Weaver 1955, 1957). In contrast, extensive amounts of untreated logging slash contributed to the devastating fires during the late 1800s and early 1900s in the inland and Pacific Northwest forests.
>
> …Depending on intensity, thinning from below and possibly free thinning can most effectively alter fire behavior by reducing crown bulk density, increasing crown base height, and changing species composition to lighter crowned and fire-adapted species. Such intermediate treatments can reduce the severity and intensity of wildfires for a given set of physical and weather variables. But crown and selection thinnings would not reduce crown fire potential.

Since the scientific literature suggests that your thinning activities will actually increase the rate of fire spread, you need to reconcile such findings with the contradictory assumptions expressed in your scoping letter.

…What about the role of mixed severity and high severity fire – what are the benefits of those natural processes? How have those processes (mixed and high severity fire) created the ecosystems we have today? Over how many millennia have mixed and high severity fire have been occurring without human intervention?

…Alternative 2 "Slows potential fire spread across the landscape, considerably reducing the threat of uncontrolled wildfire to hundreds of structures in the cumulative effects analysis area." (DEIS at 39.) "Considerably" is a very subjective term, given that the DEIS does not use any metrics for landscape-level fire behavior.

… The National Cohesive Wildland Fire Management Strategy and National Fire Plan that the DEIS relies upon were not subject to NEPA.

[3] Velocity of the wind 20 feet above the vegetation, in this case tree tops.

> The fuel reduction proposed actions have forest health implications—including adverse effects as the scoping notice implies. Since the fuel reduction regime represented by the proposal was not a planning scenario dealt with in sufficient detail (if at all) during Forest Plan development, both the project-level and programmatic ecological and economic costs and impacts remain unexplained and undisclosed. The Forest Service has not disclosed just how much of the IPNF needs to be treated for fuel reduction in a manner that emphasizes maintaining fuel conditions that are not necessarily consistent with native ecological processes. The agency must address the cumulative impacts of fire and fire management under the current IPNF fire policy.

The FS needs to perform a cumulative effects analysis of its fire suppression policies—how those effects play out on the Forest and in the project area. We believe the science is unequivocal—the forest won't be restored without allowing wildland fire in locations not adjacent to private land/structure, and without incorporating some prescribed fire in the latter riskier locations. Without the natural process of fire, the suite of ecological damages associated with the substitution of mechanical treatments will continue long-term adverse impact on the watersheds and terrestrial habitats. This leaves the door open to comprehensive restoration being subservient to timber volume production.

The Sensitive black-backed woodpecker is quite instructive, because its habitat is comprised predominately of insect infested or burned over stands. Insect infestations and recent wildfire provide key nesting and foraging habitats for the black-backed woodpecker and "populations are eruptive in response to these occurrences" (Wisdom et al. 2000). A basic purpose of the Beaver Creek project is to negate the natural occurrence that the black-backed woodpecker biologically relies on; the emphasis in reducing the risk of stand loss due to stand density coupled with the increased risk of stand replacement fire events. This emphasis is likely a large portion of the Forest. Viability of a species cannot be assured if habitat suppression is to be a forestwide emphasis via the forest plan.

Hutto, 1995 who studied forests burned in the supposedly disastrous 1988 season, noted:

> Fire is such an important creator of the ecological variety in Rocky Mountain landscapes that the conservation of biological diversity [required by NFMA] is likely to be accomplished only through the conservation of fire as a process…Efforts to meet legal mandates to maintain biodiversity should, therefore, be directed toward maintaining processes like fire, which create the variety of vegetative cover types upon which the great variety of wildlife species depend.

Hutto, 1995 states: "Fires are clearly beneficial to numerous bird species, *and are apparently necessary for some.*" (p. 1052, emphasis added.) Hutto, 1995 also noted:

> Contrary to what one might expect to find immediately after a major disturbance event, I detected a large number of species in forests that had undergone stand-replacement fires. Huff et al. (1985) also noted that the density and diversity of bird species in one- to two-year-old burned forests in the Olympic Mountains, Washington, *were as great as adjacent old-growth forests*…
>
> …Several bird species seem to be relatively *restricted* in distribution to early post-fire conditions… I believe it would be difficult to find a forest-bird species more restricted to a single vegetation cover type in the northern Rockies than the Black-backed Woodpecker is to early [first 6 years] post-fire conditions. (Emphasis added).

USDA Forest Service 2011c states:

> Hutto (2008), in a study of bird use of habitats burned in the 2003 fires in northwest Montana, found that within burned forests, there was one variable that exerts an influence that outstrips the influence of any other variable on the distribution of birds, and that is fire severity. Some species, including the black-backed woodpecker, were relatively abundant only in the high-severity patches. Hutto's preliminary results also suggested burned forests that were harvested fairly intensively (seed tree cuts, shelterwood cuts) within a decade or two prior to the fires of 2003 were much less suitable as post-fire forests to the black-backed woodpecker and other fire dependent bird species. Even forests that were harvested more selectively within a decade or two prior to fire were less likely to be occupied by black-backed woodpeckers.

Hutto, 2008 states, "severely burned forest conditions have probably occurred naturally across a broad range of forest types for millennia. These findings highlight the fact that severe fire provides an important ecological backdrop for fire specialists like the Black-backed Woodpecker, and that the presence and importance of severe fire may be much broader than commonly appreciated." The Forest Service continues to manage against severely burned forests.

Hutto, 2006 states:

> The profound failure of many decision makers to appreciate the ecological value of burned forests stems from their taking too narrow a view of what forests provide. …Land managers, politicians, and the public-at-large need to gain a better appreciation of the unique nature of burned forests as ecological communities …and how important the legacy of standing deadwood is to the natural development of forests (Franklin et al. 2000).

The popular media have caught on to the need to appreciate the value of the natural process that is wildland fire. (*Wildfires can be a boon to fisheries, Out of fire's destruction comes new growth, Birds in the black, One year after fire Black Mountain is springing back to life, What in the blazes, The Washington Post 2002*). The media and others have also viewed opinions on the fiscal and environmental folly of the prevailing fire suppression policies (*As wildfire changes, so should we, Approaching firefighting's limits, Born of Fire, Money to Burn, Burning Money, Hutto, Richard; quoted in the June 22, 2006 issue of the Missoula Independent, Hutto, Richard, 2011. The Beauty of a Burned Forest. Crown of the Continent, Fall 2011 Issue 6, pp. 42-49. University of Montana.*

REMEDY:

- Prepare a Supplemental Draft EIS that fully analyzes an alternative utilizing natural processes as the prime method of vegetative restoration outside a wildland urban interface that is delineated using the NEPA process including the best scientific information available.
- Prepare a Supplemental Draft EIS that discloses the forestwide cumulative impacts of fire suppression.

<u>OBJECTION STATEMENT: The water quality analysis does provide a process that leads to consistency with existing and/or upcoming TMDLs.</u> AWR comments included:

> The Beaver Creek Hydrology Report indicates that Beaver Creek does not support beneficial uses, i.e., does not meet state water quality standards and is therefore considered to be "impaired" for water quality. The factors for which it is impaired include sediment delivery and heavy metals, along with temperature – for which a TMDL is being prepared. Beaver Hydrology Report at 1.

The DEIS does not explain how the proposed actions are consistent with existing or proposed TMDLs for sediment. The data regarding "sediment contributed by roads" (Table 38) are not reconciled with the vaguely worded desired condition (p. 142) in the context of the TMDL/Assessment and the "current allocation of sediment."

Moreover, the large amount of proposed canopy reduction via logging and burning has the potential to exacerbate the presently unstable condition of Beaver Creek and its tributaries. The effects of bedload sediment movement due to peak flows are largely ignored in the DEIS. Therefore the impacts of rain-on-snow and other peak flow events are not adequately analyzed and the impacts of storm events on this heavily logged and roaded landscape have not been disclosed or addressed. The DEIS is not consistent with the best science on forest hydrology.

…The large amounts of proposed canopy reduction via logging and burning concerns us also because of the presently unstable condition of Beaver Creek and its tributaries. Bedload sediment effects go largely ignored. Therefore the impacts of rain-on-snow and other peak flow events are not adequately analyzed. It is not "recurrence interval" that is the sole important metric here—it is the likely exacerbated impacts of storm events in a logged and roaded landscape. The DEIS is not consistent with the best science on forest hydrology.

"(M)any of the remaining populations of native fish species in the Beaver Creek watershed reside in these upper headwater tributaries, making the analysis at the subwatershed scale more biologically relevant." (p. 144.) Paradoxically, "surveys were done at the farthest downstream point in each tributary, and therefore are thought to generally represent overall conditions within each subwatershed." (P. 184, emphasis added.) And "the Riparian Management Objective of 10 is more applicable to larger streams and may have less relevance in these small tributaries, and less ability to be measured precisely due to the nature of small streams (Whitacre et al 2007, Roper et al 2008)." Also, apparently "INFS objectives are more relevant" in larger streams. (P. 185.) The fact that the analysis modeling, methodology, and forest plan direction admittedly don't accurately address headwaters and subwatershed cumulative effects is troubling.

Please include a column for Tables 47 - 50 that discloses tons of sediment, which is more directly relevant to the TMDL.

The DEIS relies upon BMPs for showing consistency with the Clean Water Act, yet doesn't disclose effectiveness of BMPs for that very purpose. The condition of most of the managed watersheds on the District argues against the validity of BMPs for protecting water quality and fisheries.

… (T)he degraded condition of Beaver Creek and other tributaries in the Coeur d'Alene watershed indicate that implementation of BMPs does not adequately protect water quality and fisheries from the impacts of logging and road construction and reconstruction.

… The DEIS does not give any indication of the population trends of native fish. Maintaining degraded fish habitat conditions does not support narrowing the RHCAs.

REMEDY:

- Prepare a Supplemental Draft EIS that provides scientifically robust information on the association between removal of forest canopy, road networks in IPNF watersheds, and increased water yields. Discussion needs to include rain-on-snow belts especially prone to flooding.
- Prepare a Supplemental Draft EIS that adopts a project Standard requiring meeting any existing TMDL (and any future TMDLs when they are developed).
- Prepare a Supplemental Draft EIS that adopts a project Standard requiring reducing other sources of pollution that have resulted in beneficial uses becoming impaired.
- Disclose the total miles of streams in the Project Area that are have restoration needs for "structure, composition, and function of habitat for fisheries and other aquatic species" (quote from Revised Forest Plan Objective FW-OBJ-AQH-01) and designate those on a map.
- Prepare a Supplemental Draft EIS that sets project Standards, along with their associated monitoring methodology, for cobble embeddedness, turbidity and total suspended solids.
- Prepare a Supplemental Draft EIS that requires monitoring confirm that water conditions and fish habitat are in compliance with 36 CFR 219.27(e), state water quality standards and the Clean Water Act.

OBJECTION STATEMENT: The EIS analyses are not consistent with the science of climate change. AWR comments asked:

> Do unlogged old growth forests store more carbon than the wood products that would be removed from the same forest in a logging operation?
>
> What is the cumulative effect of National Forest logging on U.S. carbon stores? How many acres of National Forest lands are logged every year? How much carbon is lost by that logging?
>
> Is this Project consistent with "research recommendations (Krankina and Harmon 2006) for protecting carbon gains against the potential impacts of future climate change? That study recommends "[i]ncreasing or maintaining the forest area by avoiding deforestation," and states that "protecting forest from logging or clearing offer immediate benefits via prevented emissions."
>
> … Published scientific reports indicate that climate change will be exacerbated by logging due to the loss of carbon storage. Additionally, published scientific reports indicate that climate change will lead to increased wildfire severity (including drier and warmer conditions that may render obsolete the proposed effects of the Project). The former indicates that the Colt Summit restoration and Fuels Project may have a significant adverse effect on the environment, and the latter undermines the central underlying purpose of the Project. Therefore, the Forest Service must candidly disclose, consider, and fully discuss the published scientific papers discussing climate change in these two contexts.

The 2010 KIPZ Climate Change Report states:

> The average carbon density of these National Forests is among the highest in the Northern Rockies and interior western U.S. (Hicke et al. 2007; Potter et al. 2008). Preliminary estimates indicate that the Kootenai and Idaho National Forests is a net carbon sink, removing approximately 27 to 31 metric tons of carbon per acre per year. Harvested wood products increase the net sequestration on these forests by an undetermined amount.

The first two sentences are consistent with scientific information. However, the last sentence is directly counter. That claim, unsubstantiated by cited scientific research or information, is apparently the justification this EIS relies upon, consistent with the IPNF's position that logging will increase carbon sequestration.

The science on climate change supports the idea that national forest management emphasis should shift away from logging to carbon storage. All old-growth forest areas and previously unlogged forest areas should be preserved indefinitely for their carbon storage value. Forests that have been logged should be restored and allowed to convert to eventual old-growth condition. This type of management has the potential to double the current level of carbon storage in some regions. (Harmon et al., 2002; Harmon, 2001; Harmon et al., 1990; Homan et al., 2005; Solomon et al., 2007; Turner et al., 1995; Turner et al., 1997; Woodbury et al., 2007.)

Kutsch et al. 2010 provide an integrated view of the current and emerging methods and concepts applied in soil carbon research. It contains a standardized protocol for measuring soil CO2 efflux, designed to improve future assessments of regional and global patterns of soil carbon dynamics. They state:

> Excluding carbonate rocks, soils represent the largest terrestrial stock of carbon, holding approximately 1,500 Pg (1015 g) C in the top metre. This is approximately twice the amount held in the atmosphere and thrice the amount held in terrestrial vegetation. Soils, and soil organic carbon in particular, currently receive much attention in terms of the role they can play in mitigating the effects of elevated atmospheric carbon dioxide (CO2) and associated global warming. Protecting soil carbon stocks and the process of soil carbon sequestration, or flux of carbon into the soil, have become integral parts of managing the global carbon balance. This has been mainly because many of the factors affecting the flow of carbon into and out of the soil are affected directly by **land-management practices**.

(Emphasis added.) That leads to the following scientific discussion of the effect of "**land-management practices**, which the FS apparently does not want to pay attention to in its forest plan implementation because the latter is contributing to increased atmospheric CO2 and thus climate change. Van der Werf, et al. 2009 state:

> (T)he maximum reduction in CO2 emissions from avoiding deforestation and forest degradation is probably about 12% of current total anthropogenic emissions (or 15% if peat degradation is included) - and that is assuming, unrealistically, that emissions from deforestation, forest degradation and peat degradation can be completely eliminated.
>
> ...reducing fossil fuel emissions remains the key element for stabilizing atmospheric CO2 concentrations.
>
> (E)fforts to mitigate emissions from tropical forests and peatlands, and maintain existing terrestrial carbon stocks, remain critical for the negotiation of a post-Kyoto agreement. Even our revised estimates represent substantial emissions ...

Keith et al., 2009 state:

> Both net primary production and net ecosystem production in many old forest stands have been found to be positive; they were lower than the carbon fluxes in young and mature stands, but not significantly different from them. Northern Hemisphere forests up to 800 years old have been found to still function as a carbon sink. Carbon stocks can continue to accumulate in multi-aged and mixed species stands because stem respiration rates decrease with increasing tree size, and continual turnover of leaves, roots, and woody material contribute to stable components of soil organic matter. There is a growing body of evidence that forest ecosystems do not necessarily reach an equilibrium between assimilation and respiration, but can continue to accumulate carbon in living biomass, coarse woody debris, and soils, and therefore may act as net carbon sinks for long periods. Hence, process-based models of forest growth and carbon cycling based on an assumption that stands are even-aged and carbon exchange reaches an equilibrium may underestimate productivity and carbon accumulation in some forest types. Conserving forests with large stocks of biomass

from deforestation and degradation avoids significant carbon emissions to the atmosphere, Our insights into forest types and forest conditions that result in high biomass carbon density can be used to help identify priority areas for conservation and restoration. The global synthesis of site data (Fig. 3 and Table 2) indicated that the high carbon densities of evergreen temperate forests in the northwestern United States, southern South America, New Zealand, and southeastern Australia should be recognized in forest biome classifications.

Harmon, 2009 reviews how the forest ecosystem stores carbon, issues that need to be addressed when assessing any proposed action, and some common misconceptions that need to be avoided. He also reviews and assesses some of the more common proposals as well as his general scientific concerns about the forest system as a place to store carbon.

Hanson, 2010 states:

> Our forests are functioning as carbon sinks (net sequestration) where logging has been reduced or halted, and wildland fire helps maintain high productivity and carbon storage.
>
> Even large, intense fires consume less than 3% of the biomass in live trees, and carbon emissions from forest fires is only tiny fraction of the amount resulting from fossil fuel consumption (even these emissions are balanced by carbon uptake from forest growth and regeneration).
>
> "Thinning" operations for lumber or biofuels do not increase carbon storage but, rather, reduce it, and thinning designed to curb fires further threatens imperiled wildlife species that depend upon post-fire habitat.

REMEDY:

- Prepare a Supplemental Draft EIS that discloses the scientific research specific to the IPNF that substantiates the KIPZ Climate Change Report statement, "Harvested wood products increase the net sequestration on these forests by an undetermined amount."
- Prepare a Supplemental DEIS that includes alternatives based upon the scientific sources of information we cite regarding carbon sequestration and climate change.

<u>OBJECTION STATEMENT: The EIS does not include an adequate range of alternatives.</u>

AWR's comments stated:

> The DEIS fails to include an alternative that would limit regeneration-logged patches to 40 acres or less (DEIS at 19-20). NEPA requires that a full range of reasonable alternatives be fully evaluated. If an alternative that is fully consistent with the forest plan and NFMA is not included and evaluated, the EIS is in violation of NEPA. NFMA and the IPNF Forest Plan require openings to be limited to 40 acres.

REMEDY:

- Prepare a Supplemental Draft EIS that include an alternative that would limit regeneration-logged patches to 40 acres or less.

Sincerely,

*On behalf of:*
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